

<b>Notice of Allowability</b>	Application No.	Applicant(s)	
	09/873,310	BOTH, LOUIS JACOBUS	
	Examiner	Art Unit	
	Esaw T. Abraham	2133	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amdt filed on 02/02/07.
2. ☒ The allowed claim(s) is/are 1-2, 4-10 and 12-18 (renumbered as 1-16).
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |   |
|---|---|
| <ol style="list-style-type: none"> <li>1. <input type="checkbox"/> Notice of References Cited (PTO-892)</li> <li>2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</li> <li>3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br/>Paper No./Mail Date _____</li> <li>4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br/>of Biological Material</li> </ol> | <ol style="list-style-type: none"> <li>5. <input type="checkbox"/> Notice of Informal Patent Application</li> <li>6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),<br/>Paper No./Mail Date <u>03/16/07</u>.</li> <li>7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment</li> <li>8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance</li> <li>9. <input type="checkbox"/> Other _____</li> </ol> |
|---|---|



**GUY LAMARRE  
PRIMARY EXAMINER**

**EXAMINER'S AMENDMENT**

1. An examiner's amendment to the record appears below. Should the changes and or additions be acceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no latter than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Ognyan Beremski on 03/16/07.

2. The application has been amended as follows:

As per claims 1:

Delete "at least some of" after "writing" (line 6).

As per claim 4:

Delete "at least some of" after "for reading said" (line 2)

As per claim 5:

Delete "at least some of" after "writing" (line 7) and after "reading" (line 9).

As per claims 6:

Delete "at least some of" after "writing" (line 8).

As per claims 7:

Delete "at least some of" after "write" (lines 6 and 7).

As per claim 9:

Delete "at least some of" after "writing" (line 5).

As per claim 12:

Delete "said" after "remaining portion of" (line 6).

***Examiner's statement for reason for allowance***

3. Claims **8 and 14** have been previously allowed.

Claims **1-2, 4-7, 9-10, 12-13 and 15-18** have been allowed.

The following is an examiner's statement for allowance:

**As per claim 1:**

The prior art of record, Lucidarme et al. (U.S. PN: 6,675,016) substantially disclose a radio transmission system and a method of transmitting radio signals based on at least one data flow toward a radio communication station (see col. 1, lines 8-12). Lucidarme et al. in figure 3 teach a coding and multiplexing stage (18A) in the direction of transmission from the UTRAN (base station) to a UE (user equipment) (see col. 6, lines 22-30). Lucidarme et al. further in figure 3 teach an interleaving module (26) performs a permutation of the sequence delivered by a module (25) with a view to distributing the symbols pertaining to the TTI over the frames and this interleaving consists in writing the symbols of the sequence successively to the rows of a matrix, comprising columns, in permuting the columns of the matrix, and in then reading the symbols of the matrix column by column to form the sequence denoted, a module (27) then chops the sequence segments of consecutive symbols corresponding to the columns of the interleaving matrix after permutation, and respectively assigns these segments to the frames of the TTI to form a sequence denoted for each frame and each TrCH  $i$  (27) (see col. 7, lines 1-35). However, the prior art taken singly or in combination fail to teach, anticipate, suggest, or render obvious means coupled to said memory

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buffer for sending downstream for processing a portion of an input data stream comprising every  $C^{\text{th}}$  bit of said input data stream and for writing a remaining portion of bits of said input data stream to said memory buffer, wherein said writing to said memory buffer is performed based on according to a first interleaving pattern, and wherein C an integer indicating a number of columns in said memory buffer.

Consequently, claim 1 is allowed over the prior art.

Claims **2 and 4** depend from independent claim 1 and inherently include limitations therein and therefore are allowable as well.

**As per claim 5:**

The prior art of record, Lucidarme et al. (U.S. PN: 6,675,016) substantially disclose a radio transmission system and a method of transmitting radio signals based on at least one data flow toward a radio communication station (see col. 1, lines 8-12). Lucidarme et al. in figure 3 teach a coding and multiplexing stage (18A) in the direction of transmission from the UTRAN (base station) to a UE (user equipment) (see col. 6, lines 22-30). Lucidarme et al. further in figure 3 teach an interleaving module (26) performs a permutation of the sequence delivered by a module (25) with a view to distributing the symbols pertaining to the TTI over the frames and this interleaving consists in writing the symbols of the sequence successively to the rows of a matrix, comprising columns, in permuting the columns of the matrix, and in then reading the symbols of the matrix column by column to form the sequence denoted, a module (27) then chops the sequence segments of consecutive symbols corresponding to the columns of the interleaving matrix after permutation, and respectively assigns these

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segments to the frames of the TTI to form a sequence denoted for each frame and each TrCH  $i$  (27) (see col. 7, lines 1-35). However, the prior art taken singly or in combination fail to teach, anticipate, suggest, or render obvious means for sending downstream for processing, a portion of an input data stream comprising every  $C^{\text{th}}$  bit said input data stream, wherein  $C$  is an integer indicating a number of columns in said memory buffer, means for writing a remaining portion of bits of said input data stream to said memory buffer, and means for reading said at least some of said remaining portion of said bits of said input data stream from said memory buffer, wherein said reading from said memory buffer is performed based on according to a first interleaving pattern.

Consequently, claim 5 is allowed over the prior art.

**Claim 6** recite similar limitations to claim 1 and therefore are allowable as well.

**As per claim 7:**

The prior art of record, Lucidarme et al. (U.S. PN: 6,675,016) substantially disclose a radio transmission system and a method of transmitting radio signals based on at least one data flow toward a radio communication station (see col. 1, lines 8-12). Lucidarme et al. in figure 3 teach a coding and multiplexing stage (18A) in the direction of transmission from the UTRAN (base station) to a UE (user equipment) (see col. 6, lines 22-30). Lucidarme et al. further in figure 3 teach an interleaving module (26) performs a permutation of the sequence delivered by a module (25) with a view to distributing the symbols pertaining to the TTI over the frames and this interleaving consists in writing the symbols of the sequence successively to the rows of a matrix, comprising columns, in permuting the columns of the matrix, and in then reading the

symbols of the matrix column by column to form the sequence denoted, a module (27) then chops the sequence segments of consecutive symbols corresponding to the columns of the interleaving matrix after permutation, and respectively assigns these segments to the frames of the TTI to form a sequence denoted for each frame and each TrCH  $i$  (27) (see col. 7, lines 1-35). However, the prior art taken singly or in combination fail to teach, anticipate, suggest, or render obvious a read/write unit, coupled to said memory buffer, wherein said read/write unit is configured to send downstream for processing, a portion of an input data stream comprising every  $C^{\text{th}}$  bit of said input data stream and to write a remaining portion of bits of said input data stream to said memory buffer, wherein said writing to said memory buffer is performed based on according to a first interleaving pattern, and wherein  $C$  is an integer indicating a number of columns in said memory buffer. Consequently, claim 7 is allowed over the prior art.

**As per claim 9:**

The prior art of record, Lucidarme et al. (U.S. PN: 6,675,016) substantially disclose a radio transmission system and a method of transmitting radio signals based on at least one data flow toward a radio communication station (see col. 1, lines 8-12). Lucidarme et al. in figure 3 teach a coding and multiplexing stage (18A) in the direction of transmission from the UTRAN (base station) to a UE (user equipment) (see col. 6, lines 22-30). Lucidarme et al. further in figure 3 teach an interleaving module (26) performs a permutation of the sequence delivered by a module (25) with a view to distributing the symbols pertaining to the TTI over the frames and this interleaving consists in writing the symbols of the sequence successively to the rows of a matrix,

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comprising columns, in permuting the columns of the matrix, and in then reading the symbols of the matrix column by column to form the sequence denoted, a module (27) then chops the sequence segments of consecutive symbols corresponding to the columns of the interleaving matrix after permutation, and respectively assigns these segments to the frames of the TTI to form a sequence denoted for each frame and each TrCH  $i$  (27) (see col. 7, lines 1-35). However, the prior art taken singly or in combination fail to teach, anticipate, suggest, or render obvious sending downstream for processing a portion of an input data stream comprising every  $C^{\text{th}}$  bit of said input data stream; and writing a remaining portion of bits of said input data stream to a memory buffer, wherein said writing to said memory buffer is performed based on a first interleaving pattern, and wherein  $C$  is an integer indicating a number of columns in said memory buffer.

Consequently, claim 9 is allowed over the prior art.

Claims 10 and 12 depend from independent claim 1 and inherently include limitations therein and therefore are allowable as well.

**As per claim 13:**

The prior art of record, Lucidarme et al. (U.S. PN: 6,675,016) substantially disclose a radio transmission system and a method of transmitting radio signals based on at least one data flow toward a radio communication station (see col. 1, lines 8-12). Lucidarme et al. in figure 3 teach a coding and multiplexing stage (18A) in the direction of transmission from the UTRAN (base station) to a UE (user equipment) (see col. 6, lines 22-30). Lucidarme et al. further in figure 3 teach an interleaving module (26) performs a permutation of the sequence delivered by a module (25) with a view to distributing the

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symbols pertaining to the TTI over the frames and this interleaving consists in writing the symbols of the sequence successively to the rows of a matrix, comprising columns, in permuting the columns of the matrix, and in then reading the symbols of the matrix column by column to form the sequence denoted, a module (27) then chops the sequence segments of consecutive symbols corresponding to the columns of the interleaving matrix after permutation, and respectively assigns these segments to the frames of the TTI to form a sequence denoted for each frame and each TrCH  $i$  (27) (see col. 7, lines 1-35). However, the prior art taken singly or in combination fail to teach, anticipate, suggest, or render obvious processing a portion of an input data stream comprising every  $C^{\text{th}}$  bit of said input data stream, without storing said  $C^{\text{th}}$  bit of said input data stream in a memory buffer, wherein  $C$  is an integer indicating a number of columns in said memory buffer; writing a remaining portion of bits of said input data stream to said memory buffer and reading said remaining portion of bits of said input data stream from said memory buffer, wherein said reading from said memory buffer is performed based an interleaving pattern. Consequently, claim 13 is allowed over the prior art.

**As per claim 15:**

The prior art of record, Lucidarme et al. (U.S. PN: 6,675,016) substantially disclose a radio transmission system and a method of transmitting radio signals based on at least one data flow toward a radio communication station (see col. 1, lines 8-12). Lucidarme et al. in figure 3 teach a coding and multiplexing stage (18A) in the direction of transmission from the UTRAN (base station) to a UE (user equipment) (see col. 6,



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lines 22-30). Lucidarme et al. further in figure 3 teach an interleaving module (26) performs a permutation of the sequence delivered by a module (25) with a view to distributing the symbols pertaining to the TTI over the frames and this interleaving consists in writing the symbols of the sequence successively to the rows of a matrix, comprising columns, in permuting the columns of the matrix, and in then reading the symbols of the matrix column by column to form the sequence denoted, a module (27) then chops the sequence segments of consecutive symbols corresponding to the columns of the interleaving matrix after permutation, and respectively assigns these segments to the frames of the TTI to form a sequence denoted for each frame and each TrCH  $i$  (27) (see col. 7, lines 1-35). However, the prior art taken singly or in combination fail to teach, anticipate, suggest, or render obvious a processor that enables sending downstream a first radio frame from a first portion of an input code block, said at least one processor enables storing of one or more additional radio frames from a second portion of said input code block in said memory buffer and discarding radio frames from a remaining portion of said input code block, said at least one processor enables sending of said one or more additional radio frames downstream from said memory buffer, and said at least one processor enables recalculation of said input code block. Consequently, claim 15 is allowed over the prior art.


Claims 16-18 depend from independent claim 15 and inherently include limitations therein and therefore are allowable as well.

**Conclusion**


4. Any inquiry concerning this communication or earlier communication from the examiner should be directed to Esaw Abraham whose telephone number is (571) 272-3812. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are successful, the examiner's supervisor, Albert DeCady can be reached on (571) 272-3819. The fax phone numbers for the organization where this application or proceeding is assigned are (571) 273-8300.

Information regarding the status of an Application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or PUBLIC PAIR. Status information for unpublished applications is available through Private Pair only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Esaw Abraham

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GUY LAMARRE  
PRIMARY EXAMINER